



**INSTALLATION, OPERATION & MAINTENANCE MANUAL  
FAHRENHEIT®  
S-F& SX-F SERIES  
SIDE DISCHARGE  
Electric Submersible Pumps**

**Three Phase  
208V, 230V, 460V & 575V**

**CAST IRON  
THREE PHASE**

S08C-F  
S15C-F  
S22C-F  
S37C-F  
S55C-F  
S75C-F

**316 STAINLESS STEEL  
THREE PHASE**

SX08CSS-F  
SX15CSS-F  
SX22CSS-F  
SX37CSS-F  
SX55CSS-F  
SX75CSS-F

Read this manual carefully before installing, operating or servicing these pump models. Observe all safety information. Failure to comply with instructions may result in personal injury and/or property damage. Please retain these instructions.

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## INTRODUCTION

This Installation, Operation and Maintenance manual provides important information on safety and the proper inspection, disassembly, assembly and testing of the BJM Pumps® S-F & SX-F Series submersible pump. This manual also contains information to optimize performance and longevity of your **BJM Pumps** submersible pump. The F Series Fahrenheit® pumps are engineered to pump water based liquids up to 200° Fahrenheit (93°C).

**The submersible S-F Series pumps are designed to pump water and wastewater. The SX-F Series pumps are designed to pump corrosive liquids in concentrations chemically compatible with 316SS and FKM. The S-F & SX-F Series pumps are not explosion-proof. They are not designed to pump volatile or flammable liquids.**

**Note: Consult chemical resistance chart for compatibility between pump materials and liquid before operating pump. Consult BJM engineering if there is a question on chemical compatibility.**

If you have any questions regarding the inspection, disassembly, assembly or testing please contact your **BJM Pumps** distributor, or BJM Pumps, LLC.

Industrial Flow Solutions  
104 John W Murphy Drive  
New Haven, CT 06513, USA

Phone: 860-631-3618  
Fax: 860-399-7784

Information, including pump data sheets and performance curves, is also available on our web site: [www.flowsolutions.com](http://www.flowsolutions.com)

For assistance with your electric power source, please contact a certified electrician.

Please pay attention to the following alert notifications. They are used to notify operators and maintenance personnel to pay special attention to procedures, to avoid causing damage to the equipment, and to avoid situations that could be dangerous to personnel.

***NOTE: Instructions to aid in installation, operation, and maintenance or which clarify a procedure.***

**⚠ DANGER** Immediate hazards that WILL result in severe personal injury or death. These instructions describe the procedure required and the injury which will result from failure to follow the procedure.

**⚠ WARNING** Hazards or unsafe practices that COULD result in severe personal injury or death. These instructions describe the procedure required, and the injury which could result from failure to follow the procedure.

**⚠ CAUTION** Hazards or unsafe practices which COULD result in personal injury or product or property damage. These instructions describe the procedure required and the possible damage which could result from failure to follow the procedure.

## SAFETY

Pump installations are seldom identical. Each installation and application can vary due to many different factors. It is the owner/service mechanics responsibility to repair, service, and test to ensure that the pump integrity is not compromised according to this manual.

**⚠ WARNING** Risk of electric shock – this pump has not been investigated for use in swimming pool areas.

**⚠ DANGER** Do not pump flammable or volatile liquids. Death or serious injury will result.

**⚠ WARNING** Before attempting to open or service the pump:

- 1) Familiarize yourself with this manual.
- 2) Unplug or disconnect the pump power cable to ensure that the pump will remain inoperative.
- 3) Allow the pump to cool if overheated.

**⚠ WARNING** Do not operate the pump with a worn or damaged electric power cable. Death or serious injury could occur.

**⚠ WARNING** Never attempt to alter the length or repair any power cable with a splice. The pump motor and pump motor and cable must be completely waterproof. Damage to the pump or personal injury may result from alterations.

**⚠ WARNING** After the pump has been installed, make sure that the pump and all piping are secure before operation.

**⚠ WARNING** Do not lift the pump by the power cable piping or discharge hose. Attach proper lifting equipment to the lifting handle (or lifting rings) fitted to the pump. Do not suspend the pump by the power cable.

**⚠ WARNING** Obtain the services of a qualified electrician to troubleshoot, test and/or service the electrical components of this pump.

**⚠ CAUTION** Pumps and related equipment must be installed and operated according to all national, local and industry standards.

## INSPECTION

**Review all safety information before servicing pump.**



The following are recommended installation practices/procedures for the pump. If there are questions in regards to your specific application, contact your local **BJM Pumps** distributor or BJM Pumps, LLC.

### **PRE-INSTALLATION INSPECTION**

- 1) Check the pump for damage that may have occurred during shipment.
- 2) Inspect the pump for any cracks, dents, damaged threads, etc.
- 3) Check power cord and sensor cable for any cuts or damage.
- 4) Check for, and tighten any hardware that appears loose.
- 5) Carefully read all tags, decals and markings on the pump.
- 6) **Important:** Always verify that the pump nameplate, amps, voltage, phase, and HP ratings match your control panel and power supply.

Warranty does not cover damage caused by connecting pumps and controls to an incorrect power source (voltage/phase supply). Record the model numbers and serial numbers from the pumps and control panel on the front of this instruction manual for future reference. Give it to the owner or affix it to the control panel when finished with the installation.

If anything appears to be abnormal, contact your **BJM Pumps** distributor or BJM Pumps, LLC. If damaged, the pump may need to be repaired before use. Do not install or use the pump until appropriate action has been taken.

### **BJM Pumps Recommended Storage Procedures**

#### **Storage Environment**

- The storage environment must be between 40°F - 120°F. DO NOT allow the pump to freeze.
- The pump must be stored in a dry location
- Avoid storing the pump in direct sunlight

#### **For Storage Periods of 3 Years or Less**

- Rotate the impeller shaft by hand every 6 months and again prior to start up
  - Keeps seal faces from sticking
  - Keeps bearing grease from settling
- Check the oil in seal chambers prior to startup to ensure oil is moisture free and has not broken down.
- Megger the motor prior to startup. The reading should be above 100 MΩ.
- Remove the air check screw on the motor housing. Using an air compressor, pressurize the motor chamber to 13 psi and check for leaks using a spray bottle. Repeat this procedure to check the seal chamber for leaks.
- Inspect the power cable for any damage.

#### **For Storage Periods longer than 3 Years**

- Disassemble the pump and replace all of the O-rings, the Mechanical Seal, Seal Chamber Oil, and the Lip Seal. Repack the Bearings.

- Remove the air check screw on the motor housing. Using an air compressor, pressurize the motor chamber to 13 psi and check for leaks using a spray bottle. Repeat this procedure to check the seal chamber for leaks.
- Rotate the impeller shaft by hand prior to startup.

**Lubrication:**

No additional lubrication is necessary. The shaft seal and bearings are fully lubricated from the factory. Seal oil should be checked once per year. See table below.

**OIL FILL QUANTITY/TYPE**

OIL IN SEAL CHAMBER			
MODEL	U.S. FL. OZ.	CC.	TYPE OF OIL
S08C-F	7.8	230	ISO 32 NSF Food Grade Mineral Oil
S15C-F	7.8	230	ISO 32 NSF Food Grade Mineral Oil
S22C-F	11.8	350	ISO 32 NSF Food Grade Mineral Oil
S37C-F	11.8	350	ISO 32 NSF Food Grade Mineral Oil
S55C-F	35.5	1050	ISO 32 NSF Food Grade Mineral Oil
S75C-F	35.5	1050	ISO 32 NSF Food Grade Mineral Oil
OIL IN SEAL CHAMBER			
MODEL	U.S. FL. OZ.	CC.	TYPE OF OIL
SX08CSS-F	10.1	300	ISO 32 NSF Food Grade Mineral Oil
SX15CSS-F	10.1	300	ISO 32 NSF Food Grade Mineral Oil
SX22CSS-F	13.5	400	ISO 32 NSF Food Grade Mineral Oil
SX37CSS-F	13.5	400	ISO 32 NSF Food Grade Mineral Oil
SX55CSS-F	35.5	1050	ISO 32 NSF Food Grade Mineral Oil
SX75CSS-F	35.5	1050	ISO 32 NSF Food Grade Mineral Oil

**NOTE:** The stator on this model is oil filled. This needs to be changed annually when the seal oil is changed. With the power cable entry removed, fill the motor chamber with oil to a level that insures the oil is covering the motor windings by 1/2", and that will be above the upper bearing. Do not overfill, an air gap of 10-15% must be maintained for heat expansion.

**PUMP INSTALLATION**

S-F & SX-F Series pumps have been evaluated for use with water or water based solutions. Please contact the manufacturer for additional information.

**⚠ WARNING**

**Risk of electric shock.** Three phase pumps do not come with electric plug connectors. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.

**Lifting:**

Attach a rope or lifting chain (not included) to the handle (or lifting rings) on the top of the pump.

**⚠ CAUTION** Do not lift the pump by the power cable or discharge hose/piping. Proper lifting equipment (rope/chain) must be used.

### **POSITIONING THE PUMP**

**BJM Pumps**, S-F & SX-F Series pumps are designed to operate fully submerged. Data sheets can be obtained online at [www.flowsolutions.com](http://www.flowsolutions.com) or by calling Industrial Flow Solutions at 860-631-3618.

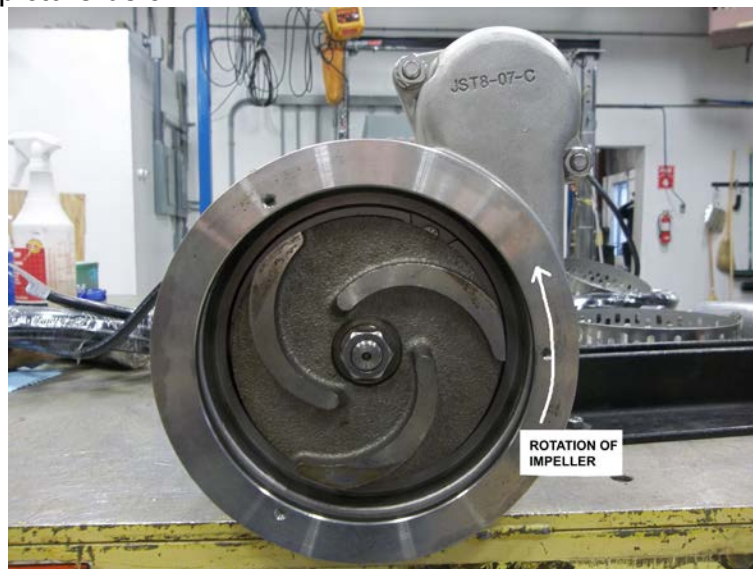
**⚠ CAUTION**

- Do not run the pump dry.
- Pump liquid should not exceed a maximum temperature of 200°F (93°C).
- Never place the pump on loose or soft ground. The pump may sink, preventing water from reaching the impeller. Place on a solid surface or suspend the pump with a lifting rope/chain. The S-F & SX-F Series pumps are provided with a suction strainer to prevent large solids from clogging the impeller. Any spherical solids which pass through the strainer should pass through the pump.
- For maximum pumping capacity, use the proper size non-collapsible hose or rigid piping. A check valve may be installed after the discharge to prevent back flow when the pump is shut off.

## PUMP ROTATION

Two ways to check the correct pump rotation:

1. By looking at the impeller; the rotation of the impeller should be counter clockwise as shown in the picture below.



2. By looking from the top of the pump. Since the impeller cannot be seen, the best way to check the rotation is to check the kick back motion of the pump when the pump just starts. The kick back motion of the pump should be counter clockwise as shown in the picture below.





## PUMP OPERATION

### **⚠ WARNING**

This pump is designed to handle dirty water that contains some solids. It is not designed to pump volatile or flammable liquids. Do not attempt to pump any liquids which may damage the pump or endanger personnel as a result of pump failure.

### **⚠ DANGER**

**Do not operate this pump where explosive vapors or flammable material exist. Death or Serious injury will result.**

## TYPICAL MANUAL WASTEWATER INSTALLATION

**NOTE: Maximum recommended starts should not exceed 10 times per hour.**

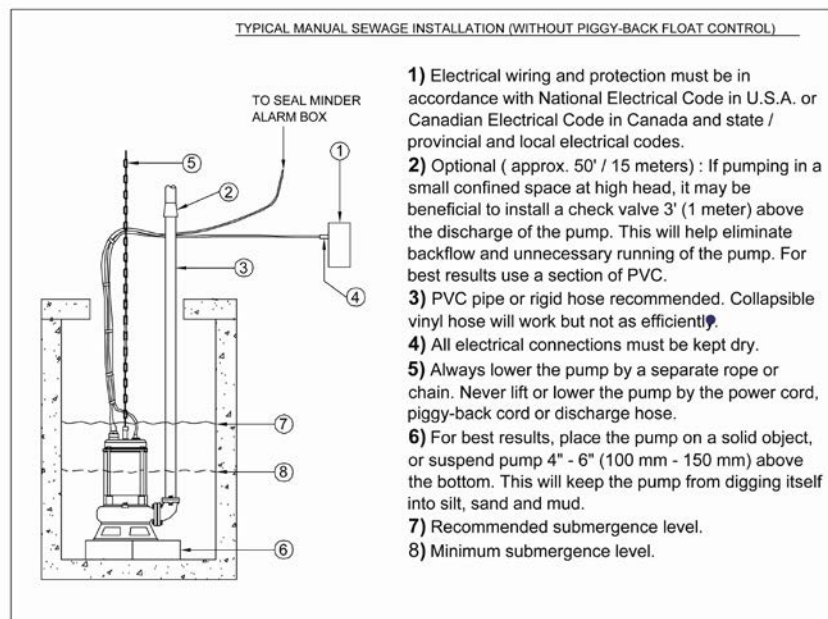
All S-F & SX-F models are provided with a 33' (10 m) power cord. NEVER splice the power cable due to safety and warranty considerations. Always keep the lead end dry.

Note: 208V, 230V, 460V & 575V three phase units do not have a plug and have to be provided separately.

### **⚠ WARNING**

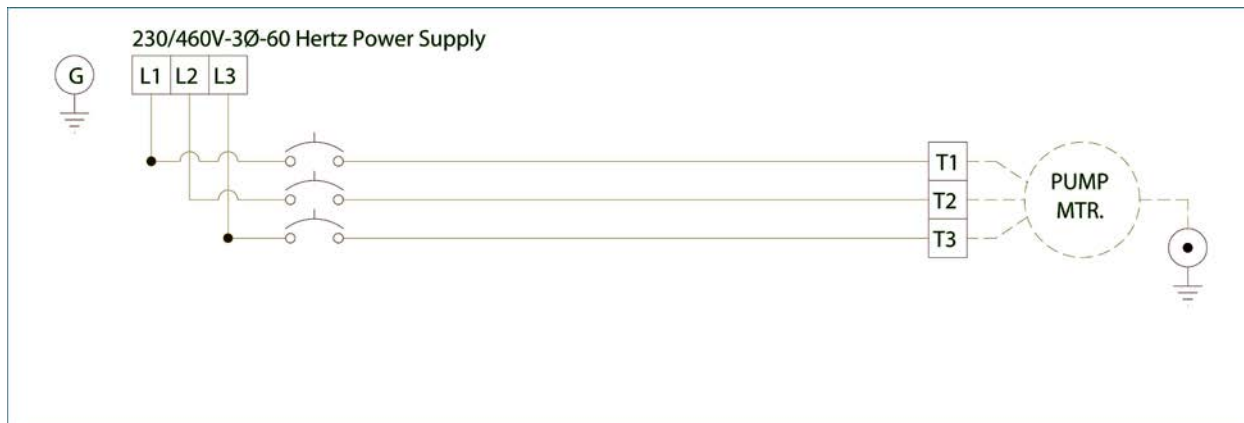
Do not alter the length or repair any power cable with a splice. The pump motor and cable must be completely waterproof. Damage to the pump or personal injury may result from alterations.

For manual operation: 208, 230, 460 & 575 volt: Connect directly to the power source or control box. Check the direction of the rotation. Tilt the pump and start it. It should twist in the opposite direction of the arrow (on pump).



## STOPPING

To stop the pump (manual and automatic mode), turn off the breaker, or turn the power source off (generator).

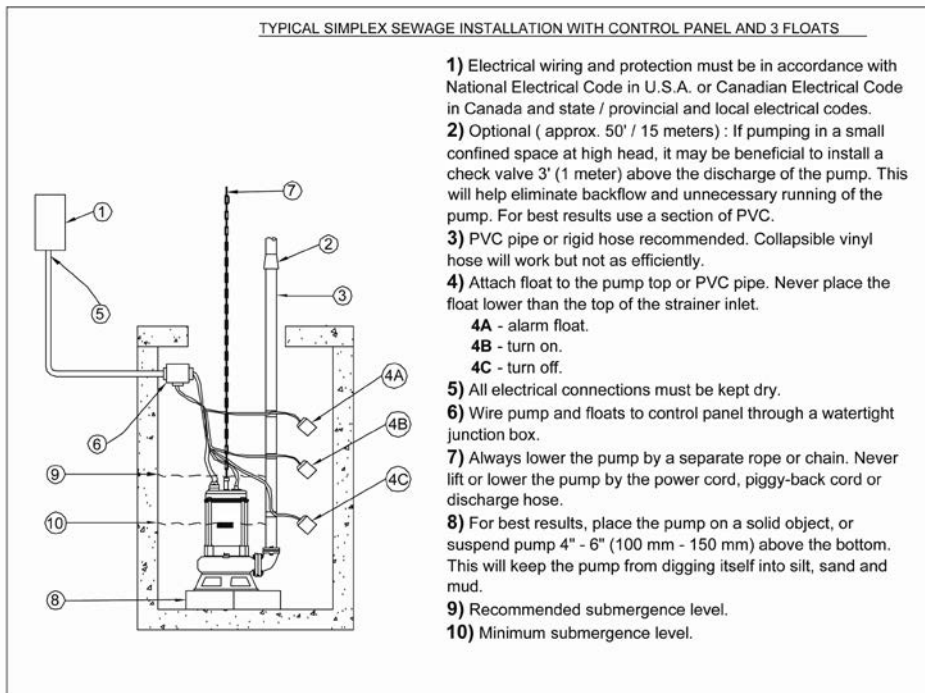
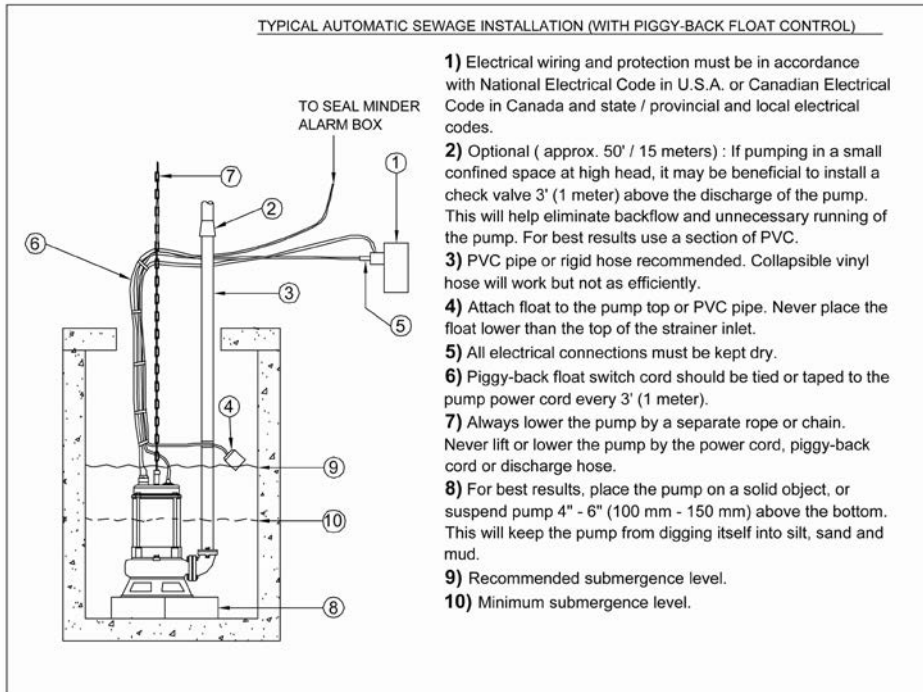


Typical 3 Phase Manual Control 1

## TYPICAL AUTOMATIC WASTEWATER INSTALLATION

**NOTE: Maximum recommended starts should not exceed 10 times per hour.**

**Three phase pumps need a separate control box with float(s) for automatic operation.**



## STOPPING

To stop the pump (manual and automatic mode), unplug it from the power source, turn off the breaker, or turn the power source off (generator).

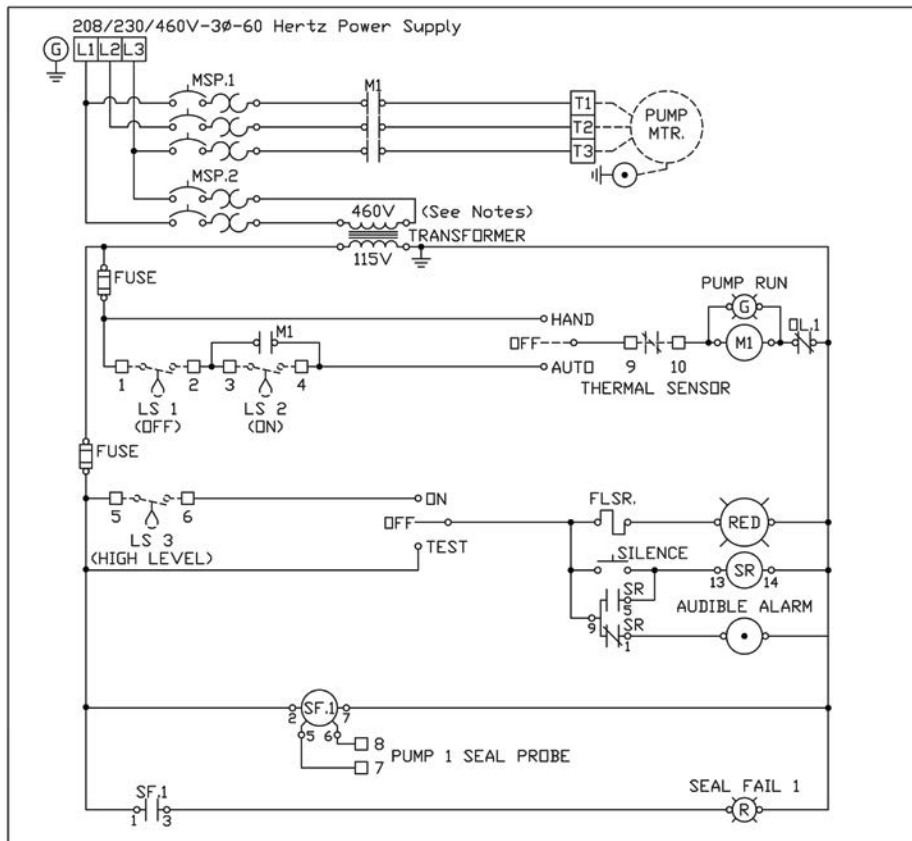
### INTENDED METHODS OF CONNECTION

**CAUTION** Use with approved motor control that matches motor input in full load amperes. “UTILISER UN DÉMARREUR APPROUVÉ CONVENANT AU COURANT À PLEINE CHARGE DU MOTEUR.”

**BJM Pumps** has been evaluated for use with water or water based solutions. Please contact the manufacturer for additional information.

### THREE PHASE WIRING INSTRUCTIONS

**WARNING** FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING.



**Typical 3 Phase Auto Control 1**

**CAUTION** “Risk of electrical shock” Do not remove power supply cord and strain relief.

**⚠ WARNING** Installation and checking of electrical circuits and hardware should be performed by a qualified licensed electrician.

To automatically operate a non-automatic three phase pump, a control panel is required. Follow the instructions provided with the panel to wire the system. For automatic three phase pumps see automatic three phase wiring diagram.

Before installing a pump, make sure both of the ground leads and the power leads have been connected properly. Once the power connections have been confirmed, then check the pump rotation. Momentarily energize the pump, observing the directions of kick back due to starting torque. Rotation is correct if kick back is in the opposite direction of rotation arrow on the pump casing. If rotation is not correct, switching of any two power leads other than ground will provide the proper rotation.

**⚠ DANGER** **DO NOT PLACE HANDS IN PUMP SUCTION WHILE CHECKING MOTOR ROTATION. TO DO SO WILL CAUSE SEVERE PERSONAL INJURY.**

Three phase pumps DO NOT have integral motor overload protection. Pumps **must** be installed in accordance with the National Electrical Code and all applicable local codes and ordinances. Pumps are not to be installed in locations classified as hazardous in accordance with National Electrical Code, ANSI/NFPA 70.

Connect pump to a junction box, outlet box, control box, enclosure with a wiring compartment that meets NEC and local codes. The provision for supply connection shall reduce the risk of water entry during temporary, limited submersion and shall comply with the applicable requirements of the Standard for Enclosures for Electrical Equipment, UL 50, or the standard for Metallic Outlet Boxes, UL 514A, and the standard for Motor-Operated Water Pumps. UL 778.

## TROUBLE SHOOTING

**⚠ WARNING** **Disconnect the power source to the pump BEFORE attempting any type of trouble shooting, service or repair.**

### PUMP WILL NOT RUN

1. Check power supply (fuses, breaker). Reset power.
2. Blocked impeller. Remove strainer, check and clean.
3. Defective cable or incorrect wiring.
4. Strainer clogged. Check and clean as necessary.
5. Float switch tangled/obstructed. Clean and free float switch from obstruction.
6. Float switch defective. Replace float switch.

## **PUMP RUNS BUT DOES NOT DELIVER RATED CAPACITY**

1. Discharge line clogged, restricted or hose kinked. Check discharge hose/pipe.
2. Worn impeller and/or suction cover. Inspect and replace as necessary.
3. Pump overloaded due to liquid pumped being too thick.
4. Pumping air. Check liquid level and position of pump.
5. Excessive voltage drops due to long cables.
6. Three phase only; pump running backwards, check rotation.

## **SERVICING YOUR SUBMERSIBLE PUMP**

Pump should be disconnected from the electric power supply before proceeding to do any service or maintenance.

To service or repair your pump, please contact your local **BJM Pumps** distributor. Service should only be performed by a qualified electrician. The design of the “F” series high temperature pump models is unique and requires specific knowledge to perform the proper assembly. BJM Pumps recommends that all electrical service work be performed at the factory, or by a factory trained and certified repair technician, to insure that the materials and assembly methods meet BJM standards.

## **MAINTAINING YOUR PUMP**

- Pump should be disconnected from the electric power supply before proceeding to do any service or maintenance.
- Pump should be inspected at regular intervals.
- More frequent inspections are required if the pump is used in a harsh environment.
- Preventative maintenance should be performed to reduce the chance of premature failure.
- Worn impellers and lip seals should be replaced.
- Cut or cracked power cords must be replaced. **(Never operate a pump with a cut, cracked or damaged power cord.)**
- Seal oil should be checked once per year.
- Maintenance should always be done when taking a pump out of service before storage.
  - 1) Clean pump of dirt and other build up.
  - 2) Check condition of oil around the shaft seals.
  - 3) Check hydraulic parts: check for wear.
  - 4) Inspect power cable. Make sure that it is free of nicks or cuts.

## **CHANGING SEAL OIL**

Changing the seal oil in the S-F & SX-F Series pumps is very easy.

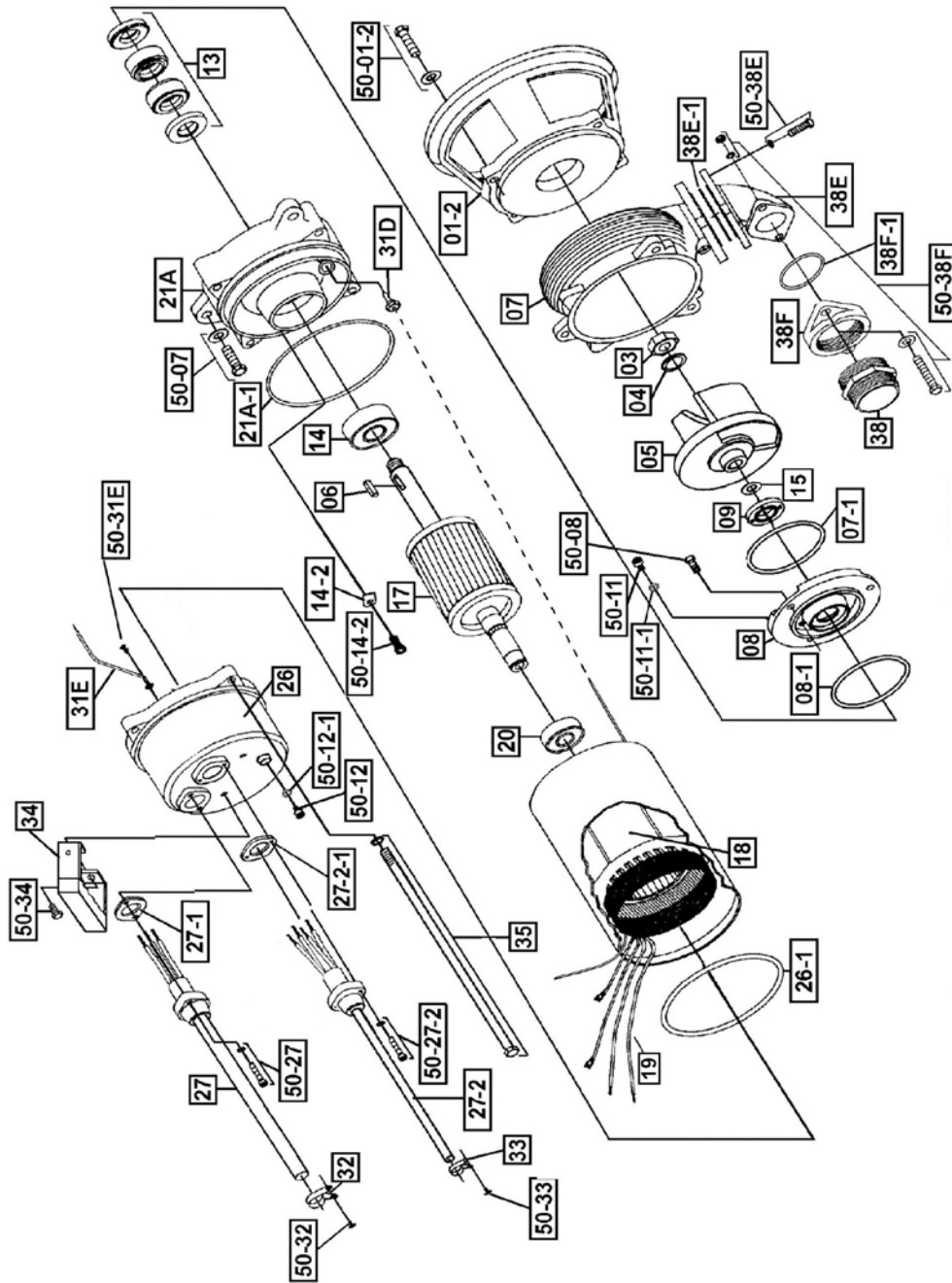
- 1) Make sure that the pump is de-energized and locked out for service.
- 2) Lay the pump down on its side.

- 3) Remove the screws that hold the bottom plate in place.
- 4) Remove bottom plate.
- 5) Remove screws holding the suction cover.
- 6) Remove the suction cover.
- 7) Remove the impeller.
- 8) Remove the inspection screw for the oil chamber (pos#50-08). Pour out a small sample of the oil. If it is milky white, or contains water, then the oil and possible, the mechanical seal, should be changed. If an oil change is needed:
- 9) Remove the screws that hold the oil chamber cover in place & remove the oil.
- 10) Replace the mechanical seal if necessary.
- 11) Replace the oil.
- 12) Assemble the pump.

### **STATOR REPLACEMENT OR ELECTRICAL REPAIR**

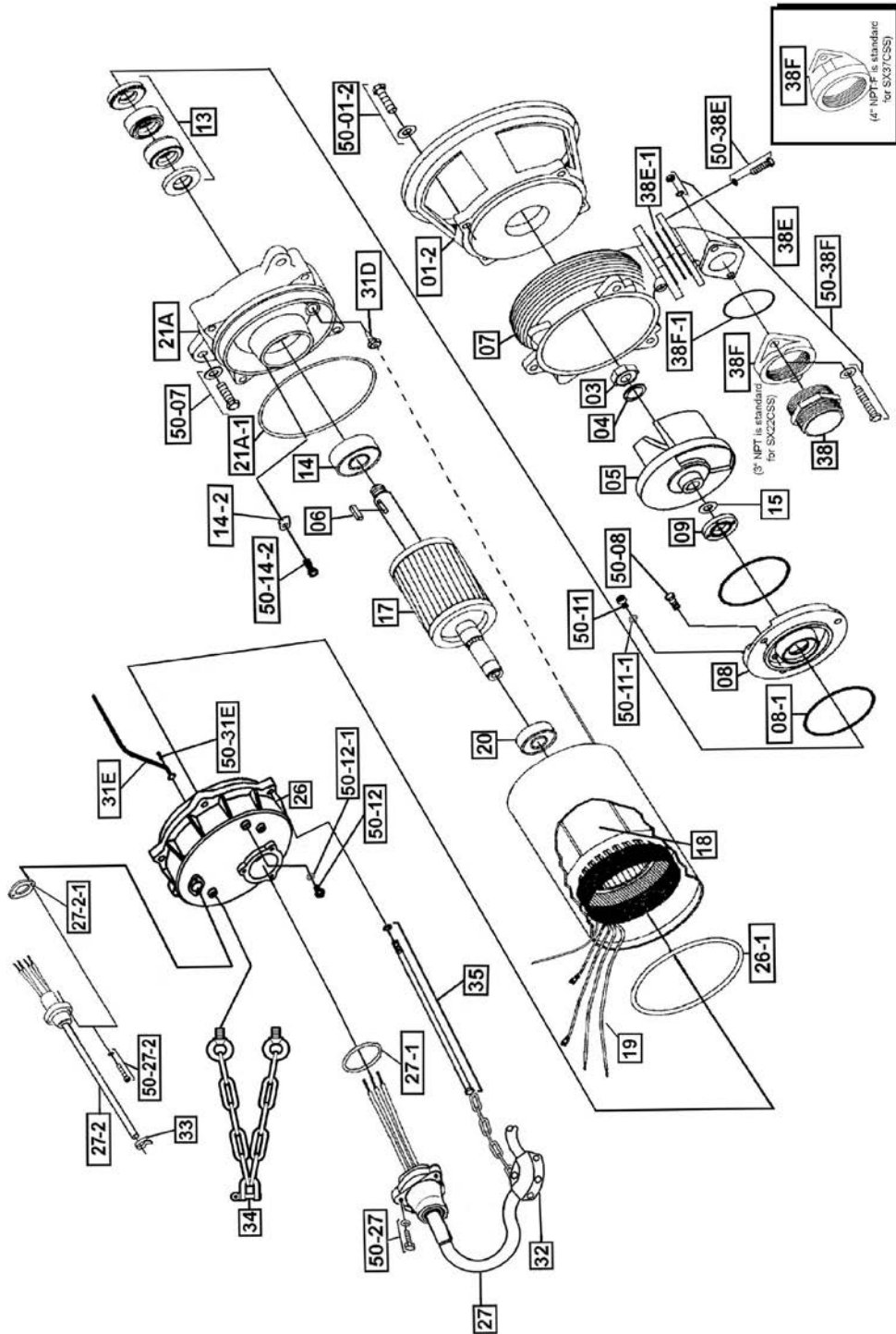
The BJM Pumps “F” Series designed pumps utilize unique construction methods and materials. The inner connection of all wiring requires use of a BJM wire connection kit. Included in this kit are specific instructions on how a qualified factory trained and certified repair technician can perform this work properly. No other materials or methods should be used on this product.

**EXPLODED VIEW OF S08C-F, SX08CSS-F, S15C-F, SX15CSS-F**



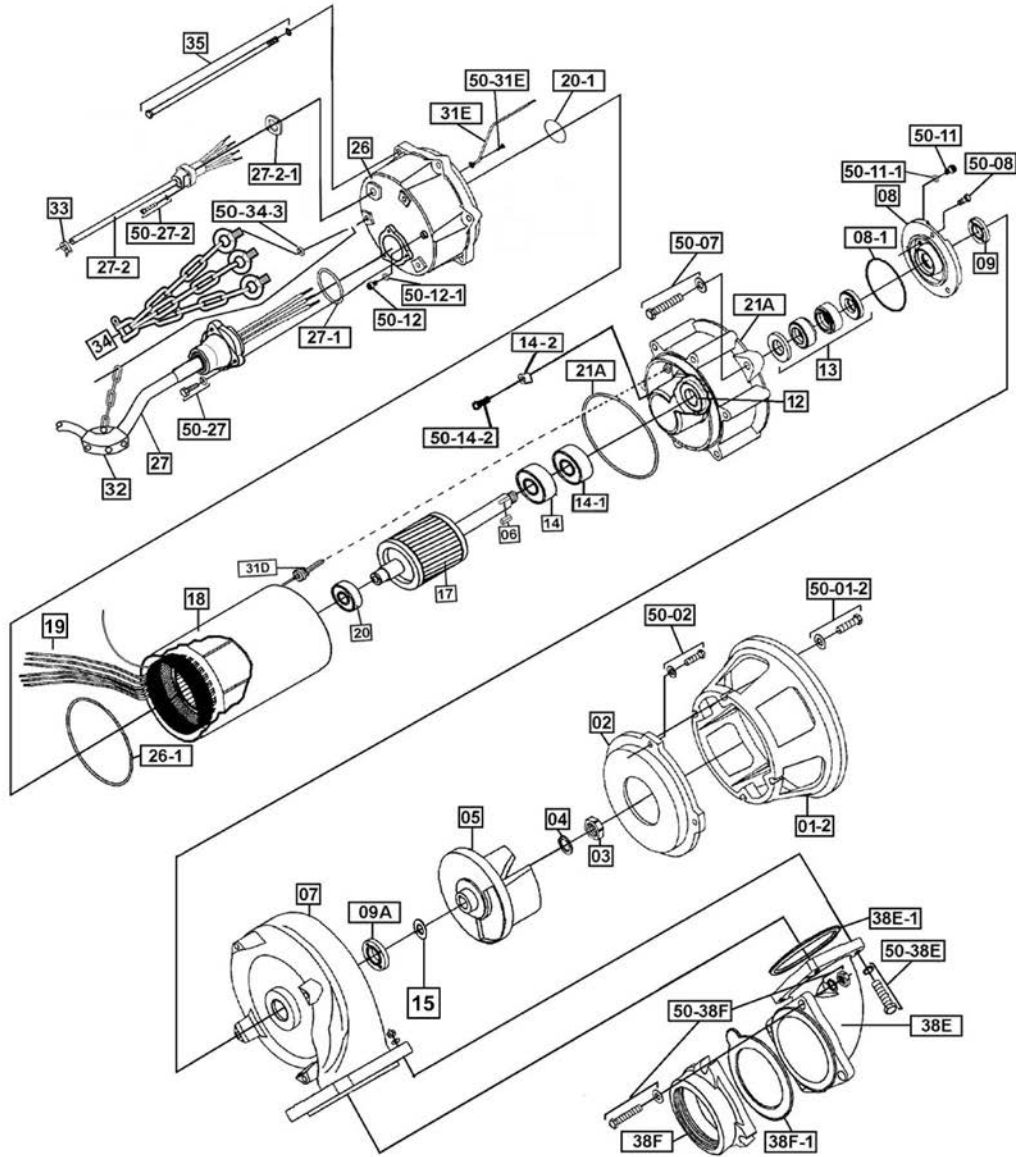


**EXPLODED VIEW OF S22C-F, SX22CSS-F, S37C-F, SX37CSS-F**



## EXPLODED VIEW OF S55C-F, SX55CSS-F, S75C-F, SX75CSS-F

**Note: SX Series pumps come with Seal Minder cord (Pos.#27-2). Seal Minder Cap (Pos.#27-3) is an optional component.**



	Pump Model	S08CF	S15CF	S22CF	S37CF	S55CF	S75CF
Pos. No.	Part Description	Item #	Item #	Item #	Item #	Item #	Item #
01-2	Stand	203843	201986	201990	201992	201996	201996
02	Bottom Plate	-	-	-	-	202020	202020
03	Impeller Nut	202894	202894	202894	202894	202897	202897
04	Impeller Washer	202907	202907	202907	202907	202917	202917
05	Impeller	202099	202103	202105	202107	202109	202112
06	Impeller Key	202140	202140	202140	202140	202142	202142
07	Pump Housing	202173	203008	203011	203014	203022	203022
08	Oil Chamber Cover	202213	202213	202218	202218	203044	203044
08-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
09	Lip Seal FKM	202232	202232	202235	202235	202241	202241
09A	Lower Lip Seal FKM	-	-	-	-	202241	202241
13	Mechanical Seal FKM	204240	204240	204243	204243	200304	200304
14	Lower Ball Bearing	200958	200958	200958	200959	200960	200961
14-1	Lower Ball Bearing	-	-	-	-	200960	200961
14-2	Lower Bearing Retainer Clip	202279	202279	202279	202279	202279	202279
15	Impeller Shim Kit (Required)	200480	200480	200480	200480	200479	200479
17	Rotor w/ Shaft, 3PH	204031	204032	204033	204034	204039	204040
18	Stator w/ Casing 208V, 3 PH	200525	200529	200533	200537	200666	-
18	Stator w/ Casing 230/460V, 3PH	200547	200551	200555	200559	200563	200567
18	Stator w/ Casing 575V, 3PH	200589	200593	200597	200601	200606	200610
19	Wire Connection Kit*	204202	204202	204203	204203	204203	204203
20	Upper Ball Bearing	200967	200967	200958	200958	200959	200959
20-1	O-Ring (Kit Only)	-	-	-	-	Kit	Kit
21A	Oil Chamber/Motor Housing	202196	202196	203030	203030	202180	203004
21A-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
26	Pump Top Cover (W/ Sensor opening)	202435	202435	202437	202437	202439	202439
26-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
27	Power Cable w/ Gland-3PH(high temp)	204452	204452	203776	203776	203776	203776
27-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
27-2	Seal Minder/Temp. Sensor Cord (High Temp)	204453	204453	204453	204453	204453	204453
27-2-1	O-Ring Kit Only	Kit	Kit	Kit	Kit	Kit	Kit
31D	Seal Minder Probe	202408	202408	202410	202410	204000	204000
31E	Ground Wire w/Ring Term.	203145	203145	203145	203145	203145	203145
32	Power Cord Line Clip / Strain Relief	203161	203161	202497	202497	202497	202497
33	Seal Minder Cable Line Clip	203163	203163	203163	203163	203163	203163
34	Handle / Chain Handle	202517	202517	202509	202509	202515	202515
35	Rod Bolts	202669	202670	202671	202672	202673	202674
38	Discharge Nipple 2"	202531	-	-	-	-	-
38	Discharge Nipple 3"	202534	202534	202534	202534	-	-
38E	Discharge Elbow	202570	202558	202558	202558	202560	202560
38E-1	Gasket, Discharge Elbow Viton	203213	203209	203209	203209	203211	203211
38F	Discharge Flange 2"	202562	-	-	-	-	-
38F	Discharge Flange 3"	-	202545	202545	202545	-	-
38F	Discharge Flange 4"	-	-	202552	202552	202818	202537
38F-1	Gasket, Discharge Flange FKM	203207	202660	202660	202660	203211	203211
50-01-2	Bolt for Strainer/Stand	203228	203228	203228	203228	203229	203229
50-02	Bolt for Suction Cover	-	-	-	-	203229	203229
50-07	Screw for Oil Chamber/Motor Housing	203228	203228	203228	203228	203229	203229
50-08	Screw for Oil Chamber Cover	203219	203219	203219	203219	203246	203246
50-11	Screw for Oil Fill	203218	203218	203218	203218	203218	203218
50-11-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
50-12	Screw for Pressure Check	203218	203218	203218	203218	203218	203218
50-12-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
50-14-2	Screw	203219	203219	203219	203219	203219	203219
50-27	Screw for Power Cord	203216	203216	203246	203246	203246	203246
50-27-2	Screw for Seal Minder Cable	203216	203216	203216	203216	203216	203216
50-31E	Screw for Ground Wire	202692	202692	202692	202692	202692	202692
50-32/50-33	Screw for Line Clip	203214	203214	-	-	-	-
50-34	Screw for Handle	203219	203219	-	-	-	-
50-34-3	Lock Washer	-	-	-	-	202902	202902
50-38E	Bolt for Discharge Elbow	203253	203255	203255	203255	203286	203286
50-38F	Bolt for Discharge Flange	203289	203289	203289	203253	203287	203287
	O-Ring Kit - FKM	202646	202646	202641	202641	202644	202644

\* "F" Series High Temperature Pumps Only

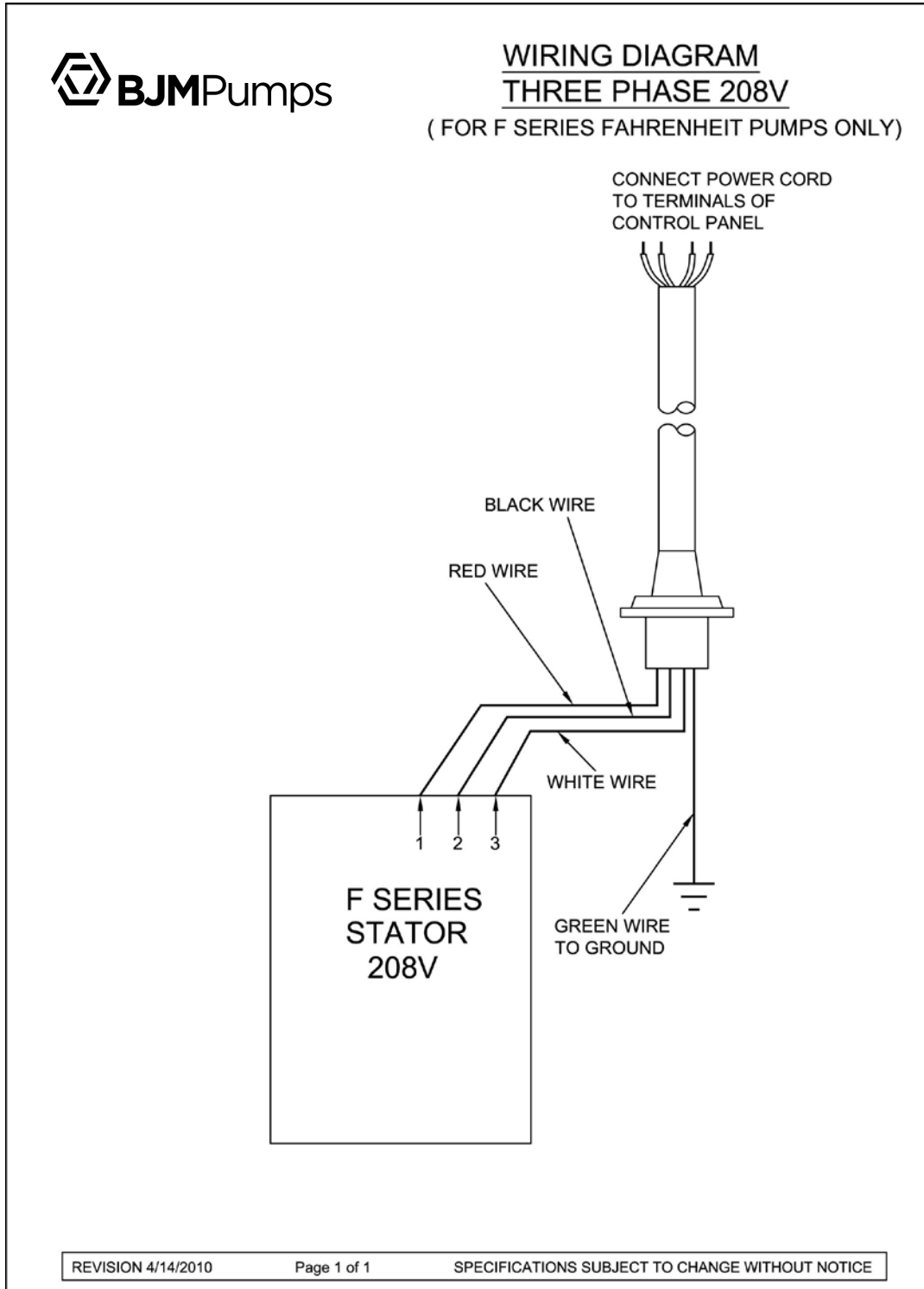
## SX-F SERIES PARTS LIST

	Pump Model	SX08CSSF	SX15CSSF	SX22CSSF	SX37CSSF	SX55CSSF	SX75CSSF
Pos. No.	Part Description	Item #	Item #	Item #	Item #	Item #	Item #
01-2	Stand	201985	201987	201991	201993	201997	201997
02	Bottom Plate	-	-	-	-	202022	202022
03	Impeller Nut	202894	202894	202894	202894	202897	202897
04	Impeller Washer	202907	202907	202907	202907	202917	202917
05	Impeller	202101	204631	204632	204633	202111	202113
06	Impeller Key	202140	202140	202140	202140	202142	202142
07	Pump Housing	202176	202172	202177	202181	202189	202189
07-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	-	-
08	Oil Chamber Cover	202214	202214	202219	202219	202217	202217
08-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
09	Lip Seal FKM	202232	202232	202235	202235	202241	202241
09A	Lower Lip Seal FKM	-	-	-	-	202241	202241
13	Mechanical Seal FKM	204240	204240	204243	204243	200304	200304
14	Lower Ball Bearing	200958	200958	200959	200959	200960	200961
14-1	Lower Ball Bearing	-	-	-	-	200960	200961
14-2	Lower Bearing Retainer	202279	202279	202279	202279	202279	202279
15	Impeller Shim Kit (Required)	200958	200958	200959	200959	200960	200961
17	Rotor w/ Shaft, 3PH	204021	204022	204023	204024	204025	204026
18	Stator w/ Casing 208V, 3PH	200527	200531	200535	200539	200668	-
18	Stator w/ Casing 230/460V, 3PH	200549	200553	200557	200561	200565	200569
18	Stator w/ Casing 575V, 3PH	200591	200595	200599	200603	200608	200612
19	Wire Connection Kit*	204202	204202	204203	204203	204203	204203
20	Upper Ball Bearing	200967	200967	200958	200958	200959	200959
20-1	O-Ring (Kit Only)	-	-	-	-	Kit	Kit
21A	Oil Chamber/Motor Housing	202197	202197	202198	202198	203013	203005
21A-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
26	Pump Top Cover (W/ Sensor opening)	202436	202436	202438	202438	202440	202440
26-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
27	Power Cable w/ Gland- 3PH(high temp)	201733	201733	203777	203777	203777	203777
27-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
27-2	Seal Minder/Temp. Sensor Cord (high temp)	201741	201741	201741	201741	201741	201741
27-2-1	O-Ring Kit Only	Kit	Kit	Kit	Kit	Kit	Kit
31D	Seal Minder Probe	202408	202408	202410	202410	204000	204000
31E	Ground Wire w/Ring Term.	203145	203145	203145	203145	203145	203145
32	Power Cord Line Clip / Strain Relief	203161	203161	202499	202499	202499	202499
33	Seal Minder Cable Line Clip	203163	203163	203163	203163	203163	203163
34	Handle / Chain Handle	202517	202517	202510	202510	202516	202516
35	Rod Bolts	202684	202685	202686	202687	202673	202674
38	Discharge Nipple 2"	202532	-	-	-	-	-
38	Bolt - Suction Cover	-	202535	202535	202535	-	-
38E	Discharge Elbow	202571	202559	202559	202559	202561	202561
38E-1	O-Ring, Discharge Elbow FKM	203326	203327	203327	203327	-	-
38E-1	Gasket, Discharge Elbow FKM	-	-	-	-	203211	203211
38F	Discharge Flange 2"	202563	-	-	-	202818	-
38F	Discharge Flange 3"	-	202546	202546	202546	-	-
38F	Discharge Flange 4"	-	-	202553	202553	202540	202540
38F-1	O-Ring, 2" Discharge Flange FKM	202723	-	-	-	-	-
38F-1	O-Ring, 3" Discharge Flange FKM	-	202724	202724	202724	-	-
38F-1	O-Ring, 4" Discharge Flange FKM	-	-	203328	203328	-	-
38F-1	Gasket, 4" Discharge Flange FKM	-	-	-	-	203211	203211
50-01-2	Bolt for Strainer/Stand	203228	203228	203228	203228	203229	203229
50-02	Bolt for Suction Cover	-	-	-	-	203229	203229
50-07	Screw for Oil Chamber/Motor Housing	203296	203296	203296	203296	203229	203229
50-08	Screw for Oil Chamber Cover	203219	203219	203219	203219	203246	203246
50-11	Screw for Oil Fill	203218	203218	203218	203218	203218	203218
50-11-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
50-12	Screw for Pressure Check	203218	203218	203218	203218	203218	203218
50-12-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit	Kit	Kit
50-14-2	Screw for Bearing Retainer	203219	203219	203219	203219	203219	203219
50-27	Screw for Power Cord	203295	203295	203246	203246	203246	203246
50-27-2	Screw for Seal Minder Cable	203295	203295	203295	203295	203295	203295
50-31E	Screw for Ground Wire	202692	202692	202692	202692	202692	202692
50-32/50-33	Screw for Line Clip	203214	203214	-	-	-	-
50-34	Screw for Handle	203219	203219	-	-	-	-
50-34-3	Lock Washer	-	-	-	-	202902	202902
50-38E	Bolt for Discharge Elbow	203294	203271	203271	203271	203286	203286
50-38F	Bolt for Discharge Flange	203229	203294	203294	203294	203287	203287
	<b>O-Ring Kit - FKM</b>	202647	202647	202642	202642	202644	202644

\* "F" Series High Temperature Pumps Only

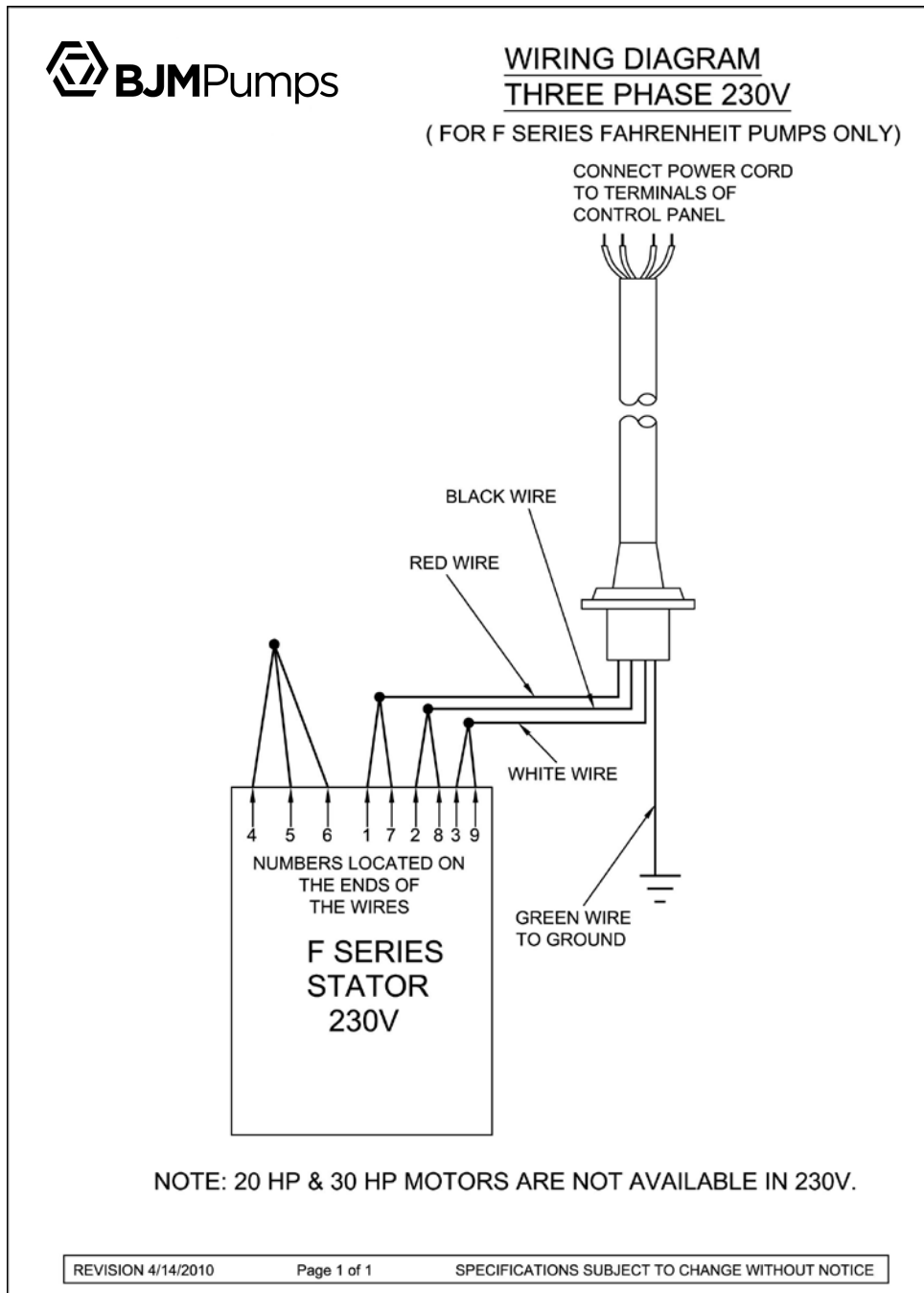
### THREE PHASE WIRING DIAGRAMS

208V

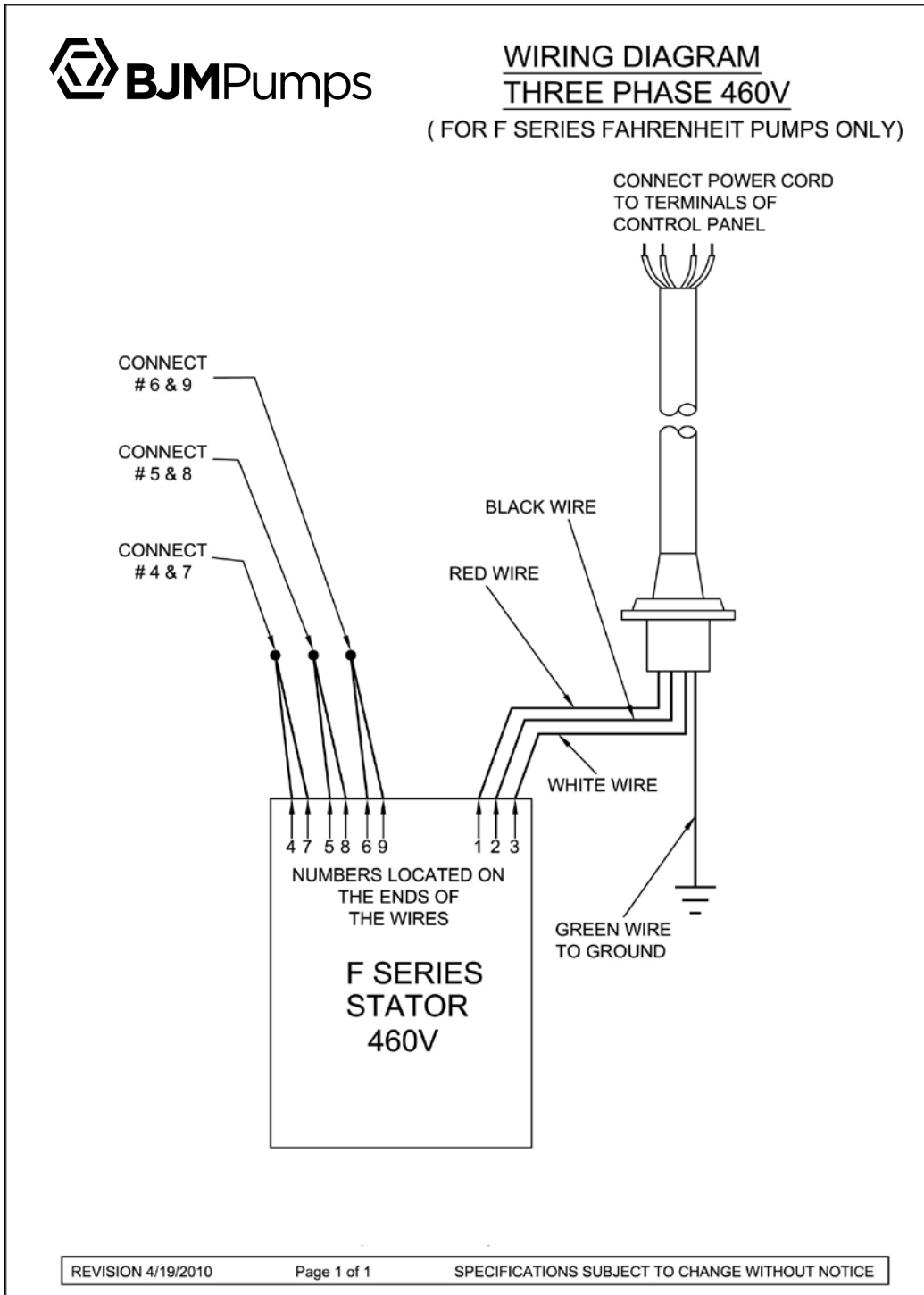


MODELS S08C-F, SX08CSS-F, S15C-F, SX15CSS-F, S22C-F, SX22CSS-F, S37C-F, SX37CSS-F, S55C-F, SX55CSS-F, S75C-F, SX75CSS-F

**230V**

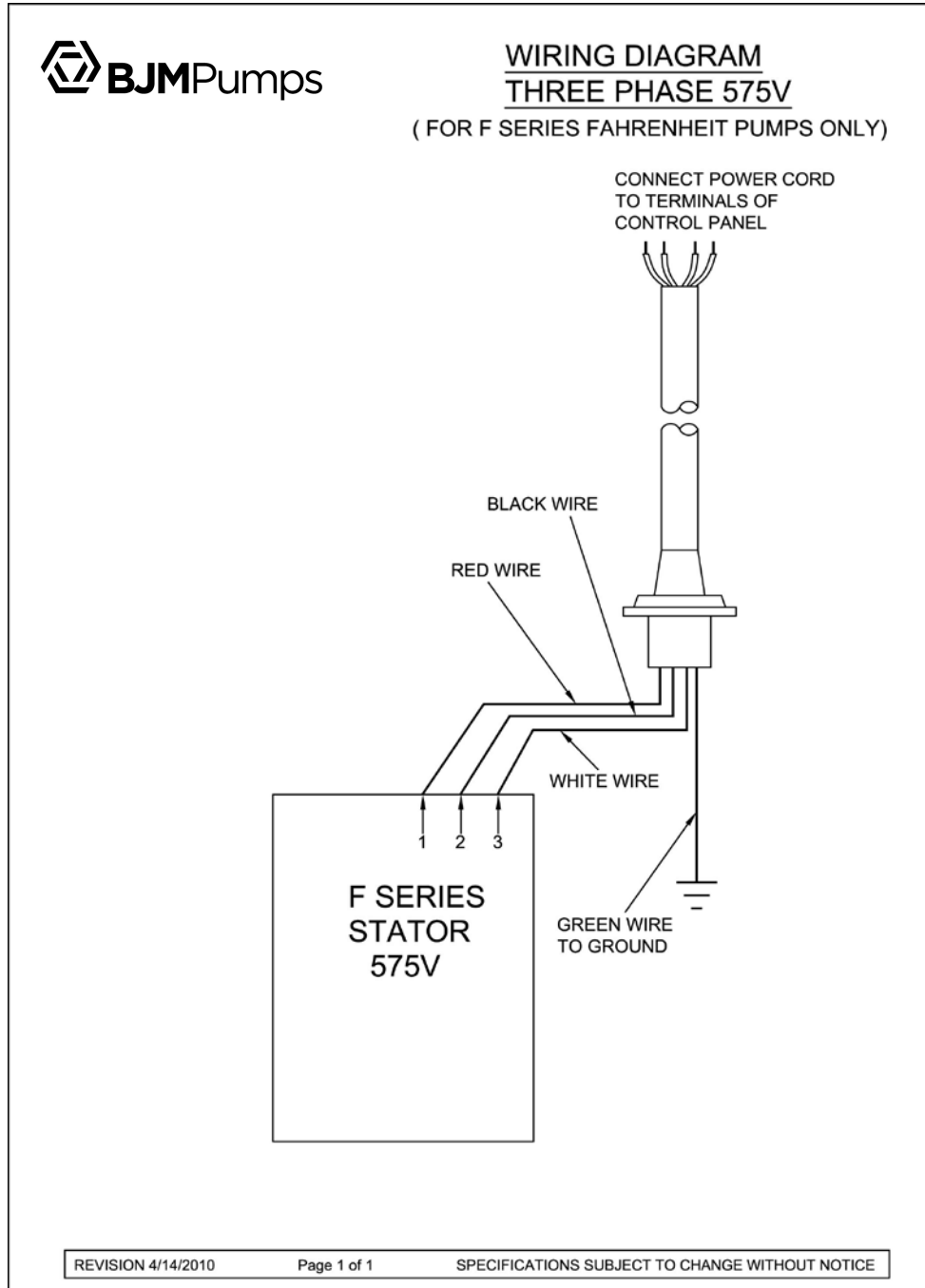


**460V**



MODELS S08CF, SX08CSS-F, S15C-F, SX15CSS-F, S22C-F, SX22CSS-F, S37C-F, SX37CSS-F, S55C-F, SX55CSS-F, S75C-F, SX75CSS-F

**575V**



MODELS S08C-F, SX08CSS-F, S15C-F, SX15CSS-F, S22C-F, SX22CSS-F, S37C-F, SX37CSS-F, S55C-F, SX55CSS-F, S75C-F, SX75CSS-F



## SEAL MINDER® - THERMAL MOTOR SENSOR SWITCH

(For high temperature pump models)

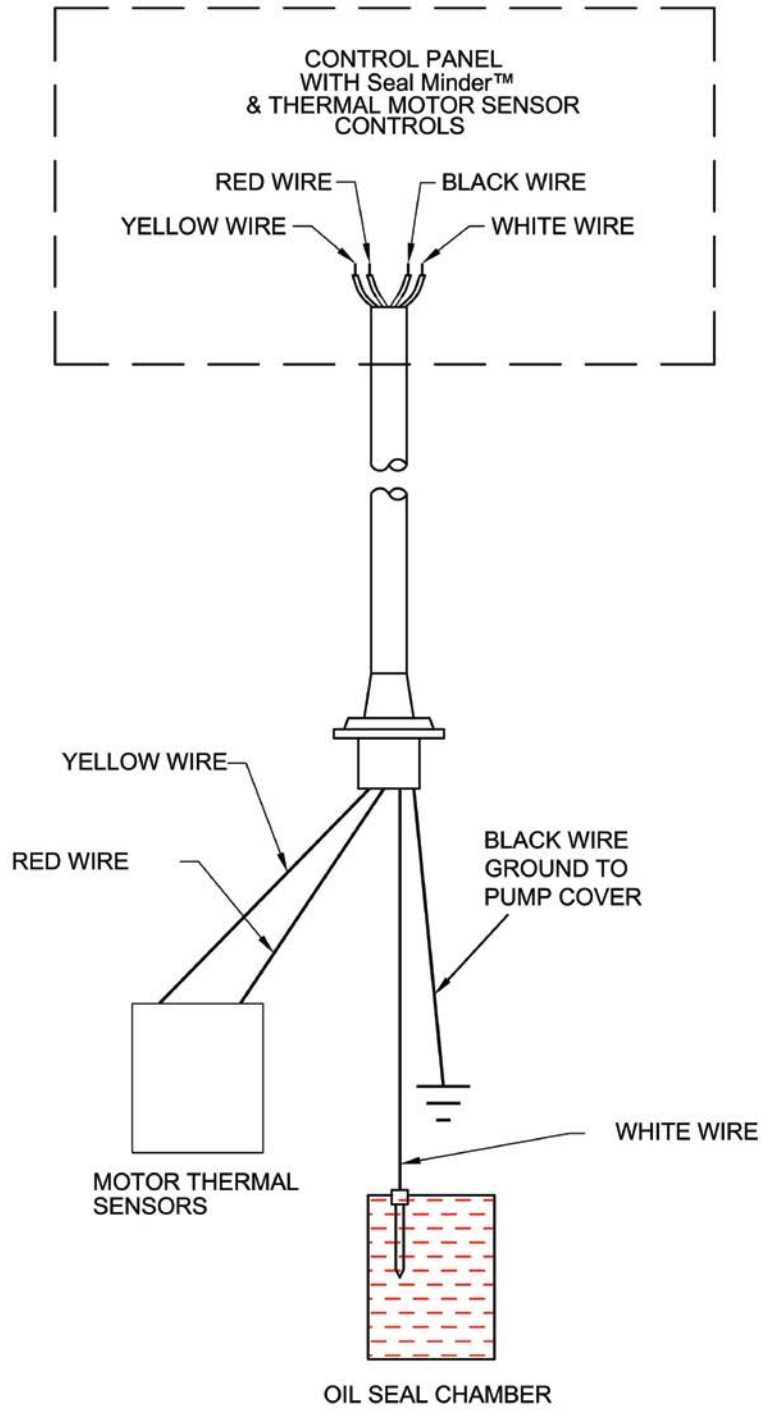
### **Seal Minder:**

Also known as a seal failure circuit (or moisture detection circuit) is designed to inform the pump operator that there is moisture within the oil chamber. This early warning can allow the operator to schedule repair & inspection on the pump. The **Seal Minder** sensor probe is inside the oil chamber. (The oil chamber houses the mechanical seals that are cooled & lubricated by oil). The **Seal Minder**, when properly connected to a control panel, can help indicate seal failure. The **Seal Minder** cord requires a seal fail circuit in control panel for warning signal.

Along, with the **Seal Minder**, the Fahrenheit® Series high temperature pumps also feature thermal temperature sensor switches that are imbedded into the motor stator windings. Three switches are imbedded into the stator windings and wired in series. The leads are connected to the pump control panel through the sensor cable. If the windings would see a temperature above 300 degrees F, then the switch(s) would open and cut power to the pump. Once the temperature dropped below 300 degrees F, the switch(s) would reset, and the pump would be returned to a state of operation. This feature is designed to prevent damage to the stator winding and allow for longer pump life.

The sensor cable consists of four leads, two are connected to the **Seal Minder**, and two are connected to the thermal sensor switches located in the stator windings. These four leads run to the pump control panel and connect to the proper connections points for seal alarm and thermal cut off. The black and white wires are for the **Seal Minder** connections and the thermal sensors will be connected to the yellow and red wires. The three phase automatic wiring diagram shown earlier in the manual will give a guide to the connections in the control panel. The manual for the control panel should be consulted for the exact connections.

The sensor cable with **Seal Minder** and thermal sensor switch connections is standard on all Fahrenheit® Series high temperature pumps. The cable is designed for a high temperature environment. The proper replacement part can be found parts list found in this manual. BJM Pumps, can supply a control with the Seal Minder and Thermal sensor switch option. Separate stand alone Seal Minder alarm panels are also available. Consult your BJM Pumps representative for part numbers and ordering details. BJM Pumps requires the **Seal Minder** and thermal sensor switches be used. Failure to connect or misuse of these devices will void warranty.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



Industrial Flow Solutions Operating, LLC  
104 John W Murphy Drive  
New Haven, CT 06513, USA

## **WARRANTY AND LIMITATION OF LIABILITY**

Unless otherwise expressly authorized in writing, specifying a longer or shorter period, BJM Pumps, LLC warrants for a period of eighteen (18) months from the date of shipment from the Point of Shipment, or one (1) year from the date of installation, whichever occurs first, that all products or parts thereof furnished by BJM Pumps, LLC under the brand name **BJM Pumps**, hereinafter referred to as the "Product" are free from defects in materials and workmanship and conform to the applicable specification.

BJM Pumps, LLC's liability for any breach of this warranty shall be limited solely to replacement or repair, at the sole option of BJM Pumps, LLC, of any part or parts of the Product found to be defective during the warranty period, provided the Product is properly installed and is being used as originally intended. Any breach of this warranty must be reported to BJM Pumps, LLC or BJM Pumps, LLC's authorized service representative within the aforementioned warranty period, and defective Product or parts thereof must be shipped to BJM Pumps, LLC or BJM Pumps, LLC's authorized representative, transportation charges prepaid. Any cost associated with removal or installation of a defective Product or part is excluded.

IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF BJM PUMPS, LLC'S DISTRIBUTORS AND CUSTOMERS. UNDER NO CIRCUMSTANCES SHALL BJM PUMPS, LLC BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES OR CONSEQUENTIAL DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE DESIGN, MANUFACTURE, SALE, USE OR REPAIR OF THE PRODUCT, WHETHER BASED ON WARRANTY, CONTRACT, NEGLIGENCE, OR STRICT LIABILITY. IN NO EVENT WILL LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT.

THE WARRANTY AND LIMITS OF LIABILITY CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY BJM PUMPS, LLC AND EXCLUDED FROM THIS WARRANTY.

BJM Pumps, LLC neither assumes, nor authorizes any person to assume for it, any other warranty obligation in connection with the sale of the Product. This warranty shall not apply to any Product or parts of Product which have (a) been repaired or altered outside of BJM Pumps, LLC's facilities unless such repair was authorized in advance by BJM Pumps, LLC or by its authorized representative; or (b) have been subject to misuse, negligence or accident; or (c) have been used in a manner contrary to BJM Pumps, LLC's instruction.

In any case of products not manufactured and sold under the BJM Pumps, LLC brand name, there is no warranty from BJM Pumps, LLC; however BJM Pumps, LLC will extend any warranty received from BJM Pumps, LLC's supplier of such products.

**START-UP REPORT FORM**

**START-UP REPORT FORM**

This form is designed to record the initial installation, and to serve as a guide for troubleshooting at a later date (if needed).

Industrial Flow Solutions Operating, LLC  
 104 John W Murphy Drive  
 New Haven, CT 06513, USA

Pump Owner's Name			
Location of Installation		Date of Installation:	
Dealer		Dealer Phone ( )	
Date of Purchase			
Model		Serial No	
Voltage	Phase	Hertz	HP
Does impeller turn freely by hand?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Condition of Equipment		<input type="checkbox"/> New	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
Condition of Cable Jacket		<input type="checkbox"/> New	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
Rotation: Direction of Impeller Rotation (viewed from bottom) (Use C/W for clockwise, CC/W for counterclockwise): _____			
Resistance of cable and Pump Motor (measured at pump control)			
Red-Black_____ohms		Red-White_____ohms	
		White-Black_____ohms	
Resistance of ground circuit between control panel and outside of pumps _____ Ohms			
<b>MEG OHM CHECK OF INSULATION</b>			
Red to ground_____ White to ground_____ Black to ground_____			
Condition of location at start-up		<input type="checkbox"/> Dry	<input type="checkbox"/> Wet <input type="checkbox"/> Muddy
Was equipment stored		<input type="checkbox"/> Yes	<input type="checkbox"/> No.
If YES, length of storage:			
Liquid being pump			
Debris in bottom of station?		<input type="checkbox"/> Yes	<input type="checkbox"/> No

**START-UP REPORT FORM**

Are guide rails vertical?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is base elbow installed level?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Liquid level controls: Model _____		
Is control installed away from turbulence?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>Float Operation Check</b>		
Tip lowest float (stop float), all pumps should remain off. Tip second float (and stop float), one pump comes on. Tip third float (and stop float), both pumps on (alarm on simplex). Tip fourth float (and stop float), high level alarm on (omit on simplex).		
<input type="checkbox"/> Check here if using manual on/off only.		
Does liquid level ever drop below volute top?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Control Panel MFG & model no.		
Number of pumps operated by control panel		
<b>NOTE: At no time should hole be made in top of control panel, unless proper sealing devices are utilized.</b>		
Short Circuit protection:	Type:	
Number and size of short circuit device(s)	Amp rating:	
Overload type:	Size:	Amp rating:
Do protective devices comply with pump motor amp rating?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are all pump connections tight?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the interior of the panel dry?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If No, correct moisture problem.
Electrical readings		
<b>SINGLE PHASE</b>		
Voltage supply at panel line connection, pump off	L1	L2
Voltage supply at panel line connection, pump on	L1	L2
Amperage load connection, pump on	L1	L2
<b>THREE PHASE</b>		
Voltage supply at panel line connection, pump off		
L1-L2	L2-L3	L3-L1
Voltage supply at panel line connection, pump on		

START-UP REPORT FORM

L1-L2	L2-L3	L3-L1
Amperage load connection, pump on		
L1	L2	L3
<b>FINAL CHECK</b>		
Is pump secured properly?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Was pump checked for leaks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do check valves operate properly?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Flow: Do pumps appear to operate at proper rate?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Noise level:	Acceptable <input type="checkbox"/>	Unacceptable <input type="checkbox"/>
Comments:		
Installed by:		
Company:		
Person:		
Date:		



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